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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/631,353	08/02/2000	Timothy J. Mousley	GB 000003	9152
24737	7590	03/25/2004		
PHILIPS INTELLECTUAL PROPERTY & STANDARDS P.O. BOX 3001 BRIARCLIFF MANOR, NY 10510				
			EXAMINER BARANYAI, LAWRENCE	
			ART UNIT 2665	PAPER NUMBER

DATE MAILED: 03/25/2004

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Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

09/631,353

Applicant(s)

MOULSLEY ET AL.

Examiner

Lawrence Baranyai

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 04 March 2004.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-16 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-16 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
- ☐ Certified copies of the priority documents have been received.
 - ☐ Certified copies of the priority documents have been received in Application No. _____.
 - ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

Response to Amendment

1. Office acknowledges receipt of Amendment received, 3/4/2004, paper no. 7.
Changes noted to correct informalities cited in previous office action have been entered.

Response to Arguments

2. Applicant's arguments filed 3/4/2004 have been fully considered but they are not persuasive. Applicant's arguments with respect to amended claims 1-16 have been considered but are moot in view of the new ground(s) of rejection. Esmailzadeh does not teach away from a contention resolution phase. Rather Esmailzadeh is silent regarding (i.e., does not teach) a contention resolution phase for the random access channel. Kanterakis discloses a system that includes a contention resolution phase. Details provided in the rejections that follow.

Examiner has given due consideration to the amended claims. Claims 1-16 stand rejected as noted below.

Claim Rejections - 35 USC § 103

3. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

4. Claims 1, 2, 11-13, and 15, are rejected under 35 U.S.C. 103(a) as being unpatentable over Esmailzadeh (US 6,111,869) in view of Kanterakis et al. (US 6,389,056). Esmailzadeh, in the field of communication, discloses a system and

method for communication of data between a base station and mobile terminals including a random access channel for uplink communications.

Esmailzadeh discloses in Fig. 1, mobile terminals in 110 to 112, which intend to transmit data packets, transmit orthogonal codes (i.e., secondary station with first signature) as requests for transmission 120-122 to the base station 100 to let the base station 100 (i.e., primary station) know that data packets that are to be transmitted are present in the mobile terminals 110 to 112. The base station 100 that has received the requests for transmission 120-122 from the mobile terminals 110 to 112 forms transmission schedules 130 to 132 by determining time slots and data channels used by the mobile terminals 110 to 112, and sends these formed transmission schedules 130 to 132 to the mobile terminals 110 to 112 (i.e., primary station responses to the request). The mobile terminals 110 to 112 that have received transmission schedules 130 to 132 from the base station 100 transmit data packets according to the time slots and data channels indicated by the transmission schedules 130 to 132 that are received (col. 8 line 56 - col. 9 line 4) in the alert response to the mobile terminals or mobile terminal retries as shown in Fig. 11 1104 (i.e., secondary station re-transmits a request encoded with a second signature).

FIG. 9 illustrates a response of transmission schedule in the mobile communication apparatus of the present invention. As shown in FIG. 9, the transmission schedule which is a response in the mobile transmission apparatus of this embodiment includes the address 901 of the transmitting source, orthogonal code numbers 902, time slots 903 and data channel numbers 904. The transmission

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schedule is the one when the address 901 of the transmitting source representing the address of the base station 100, orthogonal code number 902 which is the data representing the detected orthogonal code, time slot 903 by which the mobile terminal transmits data packets, and data channel number 904 by which the mobile terminal transmits data packets, responded to by the mobile terminals 110 to 112 by using the ACK/NACK or alert response channel (col. 14 lines 11-25).

The process to support the mobile station operation is found in Fig. 11 and described in col. 14 lines 51 – col. 15 line 42. It includes sending of request signals 1102, awaiting a response 1103 from the base station, retrying if no response is received from the base station 1104, if a response is received, transmitting data packets according to the schedule received in the response from the base station 1105, retransmitting if NACK is received from the base station 1106 and completing the process if ACK is received from the base station 1106.

The process to support the base station operation is found in Fig. 12 and col. 15 line 44 – col. 16 line 42. Requests are received from mobile stations 1201, results of processing requests are transmitted back in alert response to the mobile stations 1203 with scheduling information (channel no. time slot, etc. as previously noted), data packets are received from mobile stations and processed 1206 and if successful, ACK is transmitted to the mobile station 1208 or, NACK is transmitted and data transmission rescheduled 1207.

This is equivalent to providing a radio communication system having a random access channel for the transmission of data from a secondary station to a primary

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station, the secondary station having means for requesting access to a random access channel resource by transmitting a signal encoded with a first signature corresponding to the resource, the primary station having means for transmitting a response to the request, for selecting a random access channel to which the secondary station will be granted access.

Esmailzadeh does not teach the secondary station having means for subsequently transmitting a contention resolution signal encoded with a second signature, and the primary station having means for transmitting a further response to the contention resolution signal, and for transmitting a channel allocation signal identifying this channel at the same time as at least one of the responses.

Kanterakis, in the analogous field of communications, teaches the limitations including the secondary station having means for subsequently transmitting a contention resolution signal encoded with a second signature (col. 11 lines 20-27: each remote station includes a collision detect field in the beginning of the transmitted message. The CD field is chosen at random by each remote station and independently from each other remote station), and the primary station having means for transmitting a further response to the contention resolution signal (col. 11 lines 27-38: when the base station receives the CD field, the base station reflects back, transmits back, the CD field to the remote station. If the reflected CD field matches the CD field the remote station transmitted, the remote station assumes that the remote station is being received correctly by the base station.), and the primary station means for transmitting a channel allocation signal identifying this channel at the same time as at least one of the

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responses (CD is sent back from the RS to the BS with second signature. CD ACK is sent back from the BS to the RS identifying the RS that has been allocated to the random access channel to support contention resolution.).

One skilled in the art of communications would recognize the advantage of including a contention resolution phase to improve the transmission success rate between the base station and remote station over the uplink random access channel by providing the remote terminal with a confirmation that its transmission is being received correctly by the base station, as suggested by Kanterakis (col. 11 lines 30-34). It would have been obvious for one of ordinary skill in the art at the time of the invention, when presented with the work of Kanterakis, to apply the random access features of Kanterakis, to the mobile communications system of Esmailzadeh, with the motivation being to arrive at a system that provides more efficient random access channel operation.

5. Regarding claims 3-5, 7, and 9, Esmailzadeh in view of Kanterakis discloses a base station (equivalent to primary station), with features as noted for the claims above. Esmailzadeh in view of Kanterakis discloses the primary station limitations including means for transmitting a response to a request from the secondary station for access to a random access channel resource (Kanterakis col. 10 lines 62-66, col. 11 lines 3-5: the base station detects the preamble, acknowledges to the remote station that the preamble is received), wherein the request includes transmission of a signal encoded with a first signature (Kanterakis col. 10 lines 48-50: each remote station at random one of the preamble signals which a remote station can use for reaching the base station);

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means for transmitting a further response to a subsequent contention resolution signal encoded with a second signature transmitted by the secondary station (Kanterakis col. 11 lines 21-38: collision detect is the contention resolution signal to the primary station, the primary station transmits back the CD field as the further response to the secondary station); means for selecting a random access channel to which the secondary station will be granted access (Kanterakis col. 10 lines 62-66, col. 11 lines 3-5); base station sends acknowledgment of the preamble to the remote stations); and means for transmitting a channel allocation signal identifying this channel at the same time as at least one of the responses(Kanterakis col. 10 lines 62-66, col. 11 lines 3-5: acknowledgement of preamble reception); a means for transmitting a further response to a further contention resolution signal transmitted by the secondary station(Kanterakis col. 11 lines 20-38: base station reflects CD back to the remote stations); means for transmitting the channel allocation signal at the same time as each of the responses (Kanterakis col. 11 lines 20-38), for subdividing the channel allocation signal into a plurality of portions (Kanterakis col. 10 lines 50-57: frame timing used by the remote stations to derive a timing schedule by dividing the frame duration in a number of access slots); and means for transmitting each of the portions at the same time as a respective one of the responses (Kanterakis col. 11 lines 20-38: portions can be transmitted at the same time as information); and for including the channel allocation signal as part of each response (Kanterakis col. 11 lines 1-38: CD included with ACK to remote and can be included with data from remote).

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6. Regarding claims 6 and 14, Esmailzadeh in view of Kanterakis also discloses the limitation further comprising a means for subdividing the channel allocation signal into a plurality of portions; and means for transmitting each of the portions at the same time as a respective one of the responses (Kanterakis col. 10 lines 50-57: frame timing used by the remote stations to derive a timing schedule by dividing the frame duration in a number of access slots).

Claim Rejections - 35 USC § 103

7. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

8. Claims 8, 10 and 16 are rejected under 35 U.S.C. 103(a) as being unpatentable over Esmailzadeh in view of Kanterakis as applied to claims 1-7, 9, 11-15 above, and further in view of Gustafsson et al. (US 6,643,275). Esmailzadeh in view of Kanterakis teaches a method and apparatus for managing the random access channel of a radio communication system as noted for the claims above.

Esmailzadeh in view of Kanterakis does not disclose a system and method to transmit a channel status message indicating the highest data rate available and the use of the status message as a check before transmission. Gustafsson et al., in the analogous field of communications,

Gustafsson discloses the limitations of providing a system and method for transmitting a random access channel status message indicating the highest data rate

available on the random access channel; means for receiving from the primary station a random access channel status message indicating the availability of random access channel resources; means for using the status message as a check on the channel allocation signal before initial transmission of data; and the primary station transmitting a random access channel status message indicating the highest data rate available on the random access channel (col. 7 line 50 – col. 8 line 30: the base station broadcasts a predetermined number of signatures to be assigned to a certain data rate such that the base station can adapt the combination of signatures and data rate to the actual conditions of the traffic request being made by the mobile stations).

These features have the advantage, as noted by Gustafsson, of providing a means to adapt the allocated data rate to the needs of the mobile stations increasing system throughput and efficiency. It would have been obvious for one of ordinary skill in the art at the time of the invention, when presented with the work of Gustafsson, to apply the broadcast status message of Gustafsson assigning signatures to certain data rates, to the random access channel methods of Esmailzadeh in view of Kanterakis, with the motivation to arrive at a system which increases network throughput and efficiency.

Citation of Prior Art

9. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure. Kanterakis et al. (US 6,574,267, US 6,606,341, US 6,639,936, US 2003/0223476, US 2004/00424429) also teach the use of a contention resolution phase for the Uplink random access channel of a wireless communications system.

Conclusion

10. Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP § 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the date of this final action.

Examiner Information

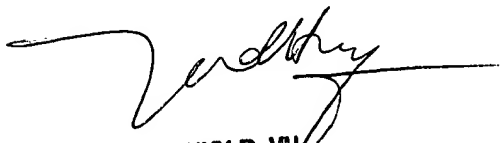
11. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Lawrence Baranyai whose telephone number is (703) 305-8707. The examiner can normally be reached on Monday-Thursday: 6:30am-5:00pm.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Huy Vu can be reached on (703) 308-6602. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

Lawrence Baranyai
Examiner
Art Unit 2665

LB



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